

## 1.- Identification of the substance/preparation and of the company

- **Identification of the product:** Quantum Dot, CdSe
- **Chemical family:** Chloroform
- **Product name:** DRP-QDCORE  
DRP-QDCORESHELL
- **Use of the substance/preparation:** Research use only
- **Manufacturer/supplier identification:** DropSens, S.L.  
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Parque Tecnológico de Asturias  
Llanera - 33428 (Asturias) SPAIN  
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E-mail.- [info@dropsens.com](mailto:info@dropsens.com)  
Internet Web Site: [www.dropsens.com](http://www.dropsens.com)
- **Emergency phone:** DropSens, S.L. +34 985 27 76 85

## 2 Hazards identification

### Classification of the mixture:

According to Regulation CLP (EC) No1272/2008

### Labelling:



- Signal word: Danger

### Hazard statements

- H302 – Acute toxicity, Oral
- H315 – Causes skin irritation
- H319 – Causes serious eye irritation
- H336 – May cause drowsiness or dizziness
- H351 – Suspected of causing cancer
- H361d – Suspected of damaging the unborn child
- H373 – May cause damage to organs through prolonged or repeated exposure

### Precautionary statements

- P261 – Avoid breathing vapours
- P281 – Use personal protective equipment as required
- P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### Supplemental Hazard Statements

None

## 3.- Composition/Information on ingredients

# MATERIAL SAFETY DATA SHEET

Quantum Dot solution  
According to regulation EC N° 1907/2006  
Edition date 01/11/2013  
Version 1.0

- **Fluorescent nanocrystals CdSe**
- **Chloroform**

**Synonyms:** CdSe

**CAS:** -

**EC N°:**

**Synonyms:** Trichloromethane, methylidene trichloride

**CAS:** 67-66-3

**Molecular weight:** 119.38 g/mol

**EC number:** 200-663-8

**EC index no:** 602-006-00-4

**Formula:** CHCl<sub>3</sub>

## 4.- First aid measures

- **General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.
- **After skin contact:** Wash skin with soap and copious amounts of water. Consult a physician.
- **After ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person, rinse mouth with water. Consult a physician.
- **After eye contact:** Rinse out with plenty of water with the eyelid held wide open for at least 15 minutes. Summon eye specialist.
- **After inhalation:** Move the person into fresh air. If it is necessary, give artificial respiration with oxygen. Summon physician if necessary.

## 5.- Fire-fighting measures

- **Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- **Special hazards arising from the substance:** Carbon Oxides, Hydrogen chloride. May form toxic fumes.
- **Special protective equipment for fire fighting:** Wear self contained breathing apparatus for fire fighting if necessary.
- **Further information:** no data available

## 6.- Accidental release measures

- **Person-related precautionary measures:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
- **Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- **Methods and materials for containment and cleaning up:** Contain spillage and then with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.
- **Procedures for cleaning/absorption:** Keep in suitable, closed containers for disposal (see section 13).

## 7.- Handling and storage

- **Handling:** Avoid eye and skin contact. Avoid inhalation of vapour or mist. Keep away from sources of ignition – No smoking. Take measures to prevent the build up of electrostatic charge.
- **Storage:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2-8 °C. Light sensitive.

## 8.- Exposure controls/personal protection

- Choroform

VLA-ED, 2 ppm, 10 mg/m<sup>3</sup>. Professional Exposure Limit for Chemical Agents – Table 1. Environmental limit for professional exposure.

### Exposure controls

- Respiratory protection Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

- Hand protection The selected protective gloves have to satisfy the specification of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.
- Eye protection Safety glasses with side-shields conforming to NIOSH (US) or EN166 (EU)
- Skin and body protection Choose body protection according to the amount and concentration of the dangerous substance at the work place. Handle with gloves. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it.
- Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9.- Physical and chemical properties

- **General information:**
  - Form: liquid
  - Colour: no data available.
  - Odour: no data available
- **Important health, safety and environmental information:**
  - pH no data available
  - Melting temperature: No data available.
  - Ignition temperature: Not determined.
  - Initial boiling point and boiling range: 60.5-61.5 °C
  - Upper/lower flammability or explosive limits: No data available
  - Bulk Density: Not data available.
  - Solubility in water (20°C): no data available.
  - Solubility in other solvent: Not determined.
  - Relative vapour density: Not determined.
  - Refractive index: Not determined.

## 10.- Stability and reactivity

- **Reactivity:** No data available
- **Chemical Stability:** No data available.
- **Possibility of hazardous reactions:** No data available.
- **Incompatible materials:** Strong oxidizing agents, Strong bases, Magnesium, Sodium/sodium oxides, lithium
- **Conditions to avoid:** Heat, flames and sparks. Extremes of temperature and direct sunlight.
- **Hazardous decomposition products:** Other decomposition products – no data available.
- **Further information:** Stable under recommended storage conditions.

## 11.- Toxicological information

- **Acute toxicity:** No data available.
- **Skin corrosion/irritation:** No data available.
- **Serious eye damage/eye irritation:** No data available.
- **Respiratory or skin sensitization:** No data available.
- **Germ cell mutagenicity:** No data available.
- **Carcinogenicity:** IARC 1 – Group 1: Carcinogenic to humans (Cadmium Selenide); IARC 2B –Group 2B: Possibly carcinogenic to humans (Chloroform)
- **Reproductive toxicity:** Suspected of damaging the unborn child. Suspected human reproductive toxicant.
- **Specific target organ toxicity – single exposure:** May cause drowsiness or dizziness.
- **Specific target organ toxicity – repeated exposure:** May cause damage to organs through prolonged or repeated exposure. Liver, kidney.
- **Aspiration hazard:** No data available.
- **Potential health effects**
  - **Skin corrosion/irritation:** toxic if absorbed through skin. May cause skin irritation.
  - **Inhalation:** toxic if inhaled. May cause respiratory tract irritation.
  - **Ingestion:** toxic if swallowed.

- **Serious eye damage/eye irritation:** causes eye irritation.
- **Additional Information:** RTECS - No data available.

### 12.- Ecological information:

To the best of our knowledge the ecological effects have not been thoroughly researched.  
Avoid contact with water, wastewaters or soil.

- **Toxicity:**

Toxicity to fish (chloroform): LC50 – Leusdicus idus (Golden Orfe) – 162mg/l – 48h  
LC100 - Leusdicus idus (Golden Orfe) – 220mg/l – 48h  
LC50 – Other fish – 97mg/l 96h  
LC50 - Danio rerio (zebra fish) – 121 mg/l – 96h  
NOEC – Oryzias latipes – 122mg/l – 10d  
NOEC – Oncorhynchus mykiss (rainbow trout) – 24mg/l – 96h

Toxicity to Daphnia and other aquatic invertebrates (chloroform): EC50 – Daphnia magna – 79 mg/l -24h  
NOEC – Daphnia magna – 120 mg/l 11d

Toxicity to algae (chloroform): EC50 – No information available – 500mg/l – 24h

- **Bioaccumulative potential:** no data available
- **Persistence and degradability:** no data available.
- **Mobility in soil:** no data available.
- **Results of PBT and vPvB assessment:** no data available.
- **Other adverse effects:** toxic to aquatic life with long lasting effects

### 13.- Disposal considerations

- **Product:** Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose this material.
- **Contaminated packaging:** Dispose of as unused product.

### 14.- Transport information

- **Road transport (ADR/RID)** UN-No: 1888  
ADR class: 1888  
Correct technical name: Chloroform  
Transport hazard class: 6.1  
Packaging group: III
- **Sea transport (IMDG)** UN-No: 1888  
Correct technical name: Chloroform
- **Air transport (IATA)** UN-No: 1888  
Correct technical name: Chloroform

### 15.- Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) 1907/2006 and/or 67/548/EEC and/or 1999/45/EC.

– **R-phrases:**

X<sub>n</sub> Harmful

R20/21/22 Harmful by inhalation, ingestion and in contact with skin

R36/37 Irritating to eyes and to respiratory system

R40 Limited evidence of a carcinogenic effect.

## 16. Other information

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The contents and format of this MSDS are in accordance with EEC Commission Directive 2001/58/EC, 67/548/EC resp. 99/45/EC

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